AMENDMENTS TO THE CLAIMS

Following is a complete set of claims as amended with this Response. This complete set of claims excludes cancelled claims 1 and 11 and includes amended claims 2-4, 6, 7, 9-16, 18, and 19.

1.   (Cancelled)

2.   (Currently Amended) The system of claim [[1]] 6 wherein the pacing unit delivers primary pacing pulses at a pulse magnitude less than a predetermined maximum pulse magnitude and wherein the backup pulse unit delivers a backup pulse at the maximum pulse magnitude.

3.   (Original) The system of claim 2 further including:
a stimulation threshold search unit operative to determine a capture threshold for primary pacing pulses.

4.   (Original) The system of claim 3 wherein the stimulation threshold search unit is activated if a programmable number of consecutive primary pacing pulses do not capture but corresponding backup pulses do capture.

5.   (Original) The system of claim 3 wherein the stimulation threshold search unit is activated if a first predetermined number of pacing pulses do not capture within a second predetermined number of delivered pulses but corresponding backup pulses do capture.

6.   (Currently Amended) ~~The system of claim 1 further including:~~ In an implantable cardiac stimulation device for implant within a patient, a system comprising:
a pacing unit for delivering primary pacing pulses to the heart;

a pulse capture detection unit detecting loss of capture of primary pacing pulses; and

a backup pulse unit delivering backup pulses to the heart upon detection of a loss of capture of a primary pacing pulse;

wherein the capture detection unit detects loss of capture of backup pacing pulses; and

a capture-based tachycardia detection unit ~~operative to detect an~~ detecting a tachycardia based upon loss of capture of backup pacing pulses as detected by the capture detection unit.

7.   (Original) The system of claim 6 further comprising:

an antitachycardia pacing (ATP) therapy unit operative to deliver antitachycardia pacing therapy to the heart upon the detection of tachycardia by the tachycardia detection unit.

8.   (Currently Amended) The system of claim 7

wherein the primary pacing ~~until~~ unit delivers overdrive pacing pulses to the heart; and

wherein a control unit controls the primary pacing unit to deliver overdrive pacing therapy while a tachycardia is not detected and to instead activate the ATP unit upon detection of tachycardia.

9.   (Original) The system of claim 7 further comprising:

a premature atrial contraction (PAC) detection unit; and

wherein a control unit is operative to suspend preventive overdrive pacing and to activate the ATP unit upon the detection of a loss of capture of a backup pulse delivered subsequent to detection of a PAC during preventive overdrive pacing.

10.   (Original) The system of claim 7 further comprising:

a premature atrial contraction (PAC) detection unit;

a PAC response unit; and

wherein a control unit is operative to suspend operation of the preventive overdrive pacing unit and to instead activate the PAC response unit upon the detection of a PAC during overdrive pacing.

11.   (Cancelled)

12.   (Currently Amended) The method of claim [[11]] 15 wherein delivering primary pacing pulses is performed to deliver pulses at a pulse magnitude less than a predetermined maximum pulse magnitude and wherein delivering a backup pulse is performed to deliver the backup pulse at the maximum pulse magnitude.

13.   (Currently Amended) The method of claim [[13]] 15 wherein the stimulation device comprises a stimulation threshold search unit operative to determine a capture threshold for pacing pulses and wherein the method further comprises:

performing a stimulation threshold search using the stimulation threshold search unit if a primary pacing pulse is not captured but a backup pulse is captured.

14.   (Currently Amended) The method of claim [[11]] 15 wherein delivering primary pacing pulses to the heart is performed in accordance with preventive overdrive pacing.

15.   (Currently Amended) ~~The method of claim 11~~ In an implantable cardiac stimulation device having a pacing system for implant within a patient, a method comprising:

delivering primary pacing pulses to the heart;

verifying capture of the primary pacing pulses;

delivering a backup pulse to the heart upon detection of a loss of capture of a primary pacing pulse; and

verifying capture of the backup pacing pulses;

wherein the stimulation device comprises an antitachycardia pacing (ATP) therapy unit operative to deliver antitachycardia pacing therapy to the heart and wherein the method further comprises:

delivering ATP therapy if both a primary pacing pulse and a backup pulse are not captured.

16.   (Original) The method of claim 15 wherein the stimulation device comprises a premature atrial contraction (PAC) detection unit and wherein the method further comprises:

delivering ATP therapy using the ATP unit upon the detection of a loss of capture of a backup pulse delivered subsequent to detection of a PAC by the PAC detection unit.

17.   (Original) The method of claim 16 wherein the stimulation device comprises a premature atrial contraction (PAC) response unit and wherein the method further comprises:

activating the PAC response unit upon the detection of a PAC by the PAC detection unit.

18.   (Original) In an implantable cardiac stimulation device for implant within a patient, a system comprising:

means for delivering primary pacing pulses to the heart;

means for verifying capture of the primary pacing pulses;

means for delivering a backup pulse to the heart upon detection of a loss of capture of a primary pacing pulse; and

means for verifying capture of the backup pacing pulses; and

means for responding to a loss of capture of backup pacing pulses.

19.   (Original) The system of claim 18 wherein the means for responding to a loss of capture of backup pacing pulses comprises:

means for delivering antitachycardia pacing (ATP) therapy to the heart in response to loss of capture of a backup pacing pulse.

20.   (Original) In an implantable cardiac stimulation device, a system comprising:

an overdrive pacing unit for delivering primary pacing pulses to the heart;

a capture detection unit operative to detect loss of capture of primary pacing pulses;

a backup pulse unit for delivering backup pulses to the heart upon detection of a loss of capture of a primary pacing pulse;

wherein the capture detection unit is further operative to detect loss of capture of backup pacing pulses;

an antitachycardia pacing (ATP) therapy unit operative to deliver antitachycardia pacing to the heart; and

a control unit operative to suspend operation of the overdrive pacing unit and to instead activate the ATP unit based upon the detection of loss of capture of a backup pacing pulse by the capture detection unit during overdrive pacing.